England.

And I'm particularly pleased to welcome Commissioner Powell of the FCC and Commissioner Perlman of the State of Texas to our six-state region.

We have a crowded panel today. We have seven people, and so I'm going to ask everyone to speak quickly and succinctly.

I'd like to have a lot of dialogue afterwards, some lively interchange, and I'll be encouraging that.

The seven speakers we have are Debra Martinez of the New York State Consumer Protection Board, Dr. David Bonner of the Adirondack project, Roderick Ansley of the Oxford County MMDS Trial, Christa Proper of Richmond Telecom, Dr. Kenneth Gordon of the NERA, Dr. Michel Guite of Vermont Telephone, and Maine State Senator Marge Kilkelly from the Mid-Coast Region.

The topic is Rural Success Stories & Challenges.

And in New England we have six states, three of which are very rural and three more which have some rural areas to them.

We're all very familiar with getting broadband to the rural areas and that's why we think this panel will be useful for the FCC and the Joint Board.

And with that, I'd like turn this over to Debra Martinez.

MS. DEBRA MARTINEZ: Thank you.

Thank you for the opportunity to share New York State's initiative to expand the deployment of advance telecommunications services in rural areas.

The New York State Consumer Protection Board is an executive agency charged by Governor George Pataki with representing all consumers in the everchanging economy.

We represent consumers, including rural businesses, residence and farmers before the Federal Communications Commission and New York State Public Service Commission with strong and clear policy direction from our Governor, New York State government believes that consumers are best served by open and competitive markets. In a recent illustration of New York's commitment to competition, the New York State Public Service Commission worked closely with Bell Atlantic to open the company's local telephone market to competition as quickly as possible.

Since Bell Atlantic serves about 90 percent of access lines in the New York State, this was a formidable undertaking. As you are aware, the Federal Communications Commission determined late last year that Bell Atlantic's local telephone market in New York State was open to competition.

New York State regulators are also working to set a precedent by opening the market of New York's independent

telephone companies. However, if the marketplace does not provide sufficient consumer benefits, government intervention may be appropriate. Such action has already been required in certain rural areas of this state.

Such action has already been required in certain rural areas of the state. New York State is commonly perceived as urban, but in fact about 80 percent of the land area and 18 percent of the state's population qualify as rural.

Access to advanced telecommunications in rural areas is very important. It helps communities attract and retain jobs, and is especially important for businesses that depend on E-commerce. It is also important for community access to education, job training and health care.

I have several examples to share with you today where the marketplace is providing advanced telecommunication services in rural areas of New York State.

First, Bell Atlantic spends more than $30 million annually on fiber cable, advanced network architectures like SONET, the advanced data platforms like ATM and frame relay in New York's rural areas.

Second, Citizens Telecommunications of New York, which serves predominately rural areas, provides advanced telecommunications services to facilitate customized distance learning arrangements with 27 schools in New York

State.

It also has a 100-percent digital network and is offering advanced services, such as frame relay, digital subscriber line or DSL.

Third, Cable operators in New York are also upgrading their infrastructure to permit the delivery of high-speed internet access, telephone services and digital television. By March 2001, approximately 94 percent of the homes served by cable, including those in rural areas, will be able to access the internet using cable modem service.

In addition to these promising initiatives, New York State has taken direct government action to accelerate the deployment of advanced telecommunications services in rural areas of New York.

For example, under the advanced telecommunications diffusion program, $50 million has been spent on advanced telecommunications projects since 1995, as part of an overall regulatory plan for Bell Atlantic's operations.

The diffusion brings advanced telecommunications services to areas of the state that would not receive these services in the near future if deployment were to be driven exclusively by market forces. Economically disadvantaged areas have been the beneficiaires of all diffusion program projects, and 20 percent of these program funds, or a total of $10 million, has been infused directly into rural areas.

Diffusion program funding is provided to schools, libraries, hospitals, community centers, small businesses and not-for-profit organizations. Over 20 advanced telecommunications projects throughout New York State have been constructed or will be built by the end of this year, including seven that are in rural areas. These rural projects provide exciting new advanced telecommunications capabilities, including distance learning, vocational training, telemedicine, job development, high-speed internet access and more.

In all instances, the projects brought together diverse groups, seeking to make use of a variety of applications. One of the most successful of the rural projects already in place in New York State is the Adirondack Area Network, which Dr. David Bonner will discuss in detail.

In addition, Frontier Telephone of Rochester, the state's second largest telephone company, will provide access to a limited number of DSL lines at no charge to non-for-profit organizations and charities in rural areas as part of an overall regulatory plan.

At the recommendation of the New York State Consumer Protection Board, Frontier Telephone also agreed to provide DSL service of 30 of its central offices that are situated in rural portions of the their service territory.

Overall, there are many advance telecommunications success stories to tell in New York State.

New York's telephone service providers and policy makers have met the challenge of accelerating the deployment of advanced telecommunications services all across the vast Empire State.

With the success of these market-driven and regulatory initiatives, individually and collectively, consumers will continue to enjoy greater access to advance telecommunications services in New York's rural areas.

To this end, literally hundreds of thousands of New Yorkers have been provided with access to advanced telecommunications services.

I greatly appreciate the interest and efforts of Commissioner Powell, Texas Public Utility Commissioner Perlman and other members of the FCC, Section 706 Joint Board, as well as my colleagues on this and other panels.

I also thank and commend New York Governor George Pataki for his leadership and foresight in making New York's rural service delivery effort so very successful.

And now I am privileged to present Dr. David Bonner of the Adirondack Area Network to explain his wonderful success story.

THE HONORABLE JACK R. GOLDBERG: Dr. Bonner, please.

DOCTOR DAVID BONNER: Thank you, Debra.

As Debra mentioned, we were one of the first diffusion projects. We were awarded $1.38 million in 1994 to start the Adirondack Area Network.

Jackie, if you could hit the next slide, please?

The Adirondack Area Network, what I thought I'd do is take you through a historical perspective.

Much like the previous panel, the Adirondack Area Network strongly believed that if we could aggregate end users, that we would have a very good chance.

The area that we're talking about is Upstate New York. It goes all the way to the Canadian border. It's a rather large rural area. This is taken from Downtown Lake Placid, to give you idea, right from the back of Lake Placid, if you've ever been there.

FROM THE AUDIENCE: In July, right?

DOCTOR DAVID BONNER: Yes, in July, right.

(Laughter.)

DOCTOR DAVID BONNER: Next slide, Jackie.

The Adirondack Area Network is a consortium of several different types of institutions. We faced many of the same challenges that you all face here today, trying to develop a rural network.

And much like the last panel, we decided that there's strength in numbers, so in our mission statement we

decided to form a 501(c)(3) not-for-profit organization and used the leveraging power that you heard about in the last section.

So, for example, we have high schools, colleges, public schools, health care facilities, government offices, all sorts of community organizations. So whatever you think of in a small village, we tried to incorporate into this network.

One of thee main ideas that we wanted to do was not just bring internet.

We heard in the previous panel, again, an intranet is what we really needed. So we needed to be able to handle voice, video and data.

Furthermore, if you look in some of these rural areas, the end users aren't quite sure how to do this. So we had to have a 501(C)(3), which would watch after the actual technology and the research and development that needed to be done and the partnerships that needed to be formed, hence, we started the not-for-profit organization.

What kind of outcomes did we wish to achieve and did we achieve?

Well, obviously, everybody want internet con (phonetic) activity. That's top on everyone's list.

Links to libraries.

Distance learning was a big ticket item, because

we are in such a rural area.

Telemedicine. I'm looking at some of our original statistics. In the land area of a thousand square miles, we had one hospital. That's in one county. I could go right down the list. You could check the statistics yourself.

Telemedicine was a must to have in the area to link up to large urban centers, such as Albany, New York, Syracuse and other big cities in New York State.

Conferencing, in general, for all types of purposes. This could be in a business setting, whatever.

Data exchange. It is an internet, so the different institutions can combine and do land-to-land type connections, as well.

E-mail con activity.

Teleradiology is a big ticket item.

Canned video serves -- this is kind of a store and forward type of service, so you see a live interactive distance learning, your telemedicine program, and then later on it'll be archived, much like this program, when we get a tape of this, it'll be archived and you can hit it on-line.

Voice over IP. A lot of the areas for disaster recovery, on voice, we had the big ice storm, as the other states in this area suffered, the voice over IP is an alternative to the public teleco, as well as cutting cost on long-distance.

And network security. One thing that I haven't heard mentioned here, in general, is on these internets, who is going to do the HIPA (phonetic) regulations, who is going to take care of network security and those types of issues?

So as part of our 501(c)(3), we decided to actually add in security, as well.

What kind of members do we have?

Well, we have medical centers, obviously, higher education, legal services are on the network, as well.

Cultural agencies.

Government agencies.

Community organizations, in general.

We're just now starting to get small businesses. Small businesses are very difficult to bring into the loop.

K through 12s, an open marked con activity.

And what I don't see there, I missed. We just recently had a tribal community that came on, the St. Regis Mohawk Tribe.

This shot is taken in one of the operating rooms of Albany Medical Center. It was for an on-line surgery where a fiberoptic camera was put inside of, in fact, my body, I did the signaling for this operation the night before my operation, for a triple hernia.

On-line, live, there were seven institutions that were able to watch. So one of the big things is on-line

surgeries.

Medical research. In fact, this project was a medical research project.

Radiology.

Grand rounds.

Administrative type meetings.

Remote patient visits. So from one of these hospitals that I just mentioned, if a patient gets shipped to another hospital, patient to family can visit over it.

The HIV program.

I mentioned disaster recovery.

Continuing medical education.

Remote diagnostics.

Community program. The mini-meds are very popular right now. The community can come in and watch from the various hospitals the grand rounds for the public.

Medical consultants.

And the DOCS, the Department of Corrections, are also starting to use the system.

Go ahead, Jackie.

In the educational field, you see to store and forward videos that were from the Indianapolis Zoo.

Remote teacher training.

Materials distribution for the teachers turned out to be very important, because a lot of the teachers didn't

understand exactly what they would do.

Advanced placement programs.

Distance education.

Conferencing.

Administrative meetings.

Store and forward video, just as you see here.

Internet con activity.

And security of video.

Actually, from one school to the next school, you can actually archive and store the video within the school, hallways and whatnot.

This is a diagram that we used. It's an ATM frame relay core.

And on the edge, as you'll notice in the top site, you might have a site that may not have satellite, may not have ISDN, may not have many services. It's back hauled out of the NARC (phonetic) in Albany, New York.

So the frame relay lines, when they want to dial to get out, to the ISDN, they must dial 9-1 and the area code and go.

But all point-to-point calls on the network are free, absolutely free. So if they make a point-to-point call from one institution to the next institution, there's no by-the-minute charge.

I'd like to just end with a couple of the

successes and failures.

One that we've heard about a lot here is diversity breeds stability.

Instead of trying to make a higher ed network or a medical network or a community where it's one type, what we did is we combined all the different types of institutions.

What we've really seen is a lot of interest, for example, the on-line surgery being broadcast to the K through 12 institutions. There's a lot of cross disciplinary work that's turned out to be very important, which we didn't anticipate. It was a pleasant surprise.

The resource sharing -- in general, we heard about aggregation in the previous panel. I have to echo that, again. The resource sharing is highly important. Not one group of institutions, even much less one institution could have pulled off what we did aggregating and combining our resources.

The breakthrough from H.323. and voice over, voice over IP, voice over frame relay and voice over ATM, happened in a timely fashion for us, because we went with a frame relay network.

Distributed technologies. There's very little hope in my mind to outfit every part in the rural areas with ADSL or SDSL or ISDN. And all we have to do is look historically. ISDN has been around for years and years and

years, but we do not have ISDN in many areas of the United States.

So with that in mind, I would like to say, it might make more sense to try and backfill some of these through an ATM or frame relay network.

You can get frame relay anywhere in New York State, now, through the efforts of Bell Atlantic and other carriers.

We were able, also, to take the mileage rates out of the frame relay tariffs. This helped tremendously. We heard about the bargaining prices and they are very much the same as what they were in Massachusetts and Maine.

The Tribe (phonetic), for example, was $2500 a month when we started the project. That's the quote that we're given. We got the local loop down in the $600 range, which is less than most areas in the New York State region.

This little pun here about ISDN, ISDN is very problematic. I can't imagine that a rural institution is going to actually keep ISDN up. Our rural networks do have ISDN. Every one of our rural sites has ISDN available to them. As I say, the ISDN is centralized.

Go ahead, Jackie.

Some of the failures.

Expensive LATA crossings. I would love to connect up with the projects that were here in the previous panel,

but going across LATA and across state is problematic and expensive by all carriers.

The -- crossings, in general, as well, technologically poor.

One of the things that I was surprised that nobody mentioned through the day is what we're finding is the learning curve at the end-user sites, the -- technology, it's all there. But the actual sites, they're given brand-new sets of equipment and things, how do you actually run it? How do you actually use it? What's the learning curve on getting established?

In the lands, as well. Many of these institutions didn't have local area networks. Now all of a sudden E-rate kicks in, all these different types of funding capabilities kick in, and we don't have these rates.

Carrier problems are still a nightmare. I don't care which two carriers you're trying to go between, and you must go between them. Every time it's a new design. Every time it's a new story. Every time it's matching up technologies that don't quite meet in the middle.

And we also talked about portability.

This picture is a picture taken in Guatemala, Guatemala had us down. They studied the Adirondack area and the Country of Guatemala and wanted to import the entire model to the Country of Guatemala.

Thank you.

THE HONORABLE JACK R. GOLDBERG: Thank you.

Dr. Bonner, your dedication to this area is awe inspiring, actually having your operation viewed like this.

For the people who don't understand why New York is part of this panel for New England, I'd like to say that we have a community of interest with New York. But just to make this legal, by the power invested in my, I hereby declare New York as part of New England for today only.

(Laughter.)

THE HONORABLE JACK R. GOLDBERG: And now, Roderick Ansley for the Oxford Telecom MMDS Trial.

MR. RODERICK N. ANSLEY: Okay, thank you.

I'd like to take my time to acquaint you quickly with Oxford Telecom, and talk to you a bit about some of the partnerships that we have, that we're engaged in with some of our peer telephone companies in New England. But the main thing I'm going to discuss with you is our MMDS wireless venture into Portland, Maine, and I'll make a comment about that, first.

It says on my name tag here that this is a trial. We have invested two years of our company's earnings in this, so I don't think we can call it a trial. I think we're pretty committed to it.

Oxford Telecom is an independent telephone company

that serves 14,000 lines in Western Maine, and we serve those lines over about a thousand square miles. So, yes, that equates to 14 lines per square mile, which is pretty sparse.

We have about 80 employees, so we're a pretty small company. We are also in the internet service business. We have an internet service provider called Megalink, and we serve about 9,000 customers in Western and Southern Maine.

We're engaged in a couple of partnerships that are particularly critical to our success in the future. One is a business that we call NeCAP. It's not an underworld business. It's a business that really means New England comparative answers provider, and there are four other telephone companies in New England that are partners with us, and we're joining our networks and building some fiber to link our networks together, to provide a network throughout all of Maine, connecting all of the population centers together.

We're also engaged in an information systems partnership with two other telephone companies in New England.

As a speaker this morning mentioned, billing and informations systems infrastructures are a critical barrier for companies like ours, regardless of size.

So a company of our size, with our limited resources, finds it almost impossible to create the kinds of information systems that we need, so we're coupling up with a couple of other companies that are highly bigger than us, but nevertheless we can do more as three than we can with one.

I'm going to talk for a couple of minutes about our MMDS fixed wireless network in Portland.

And, by the way, we are at the very earliest stages of deploying this network.

Only three weeks ago, we mounted our antenna on top of building on Congress Street in Portland. We don't have any customers yet. The network isn't even turned on yet. We don't have final FCC approval for our license, but that's pending, literally any day now.

We're working on site surveys with customers, which means that we're doing some, at least, looking between buildings to tell if we have the line of sight that's required to connect a customer site with our antenna.

Our antenna is in a great spot. It's one of the highest points in the area. It's on what I think is the second tallest building in Portland.

We expect to have our first customers next month. The technology is almost ready to go, the license is almost ready to go, and we have customers almost ready to go, so

things are lining up.

We expect the business to be profitable in about two years. Our break-even point, we think, is between two- and three-hundred customers, so it's not a small customer business, it's a medium size business kind of organization, but we have a batch of simple products.

Our niche in the market is to offer a simple approach to broadband. We allow for 12 products that range from 256 kilobit access to 10 megabit, with 12 increments along the way; 256, 512, it goes up for about -- it doubles until it gets to about 3 meg, and then we go up in full meg increments from there.

We provide a couple of -- we will provide one additional service in about a year. We think that voice over IP will be reliable in about a year. And we will provide, of course, right from the beginning, internet access.

So really we have a product that connects point-to-point, point-to-mulitipoint and point-to-internet. It's that simple.

Our early customer feedback is that they're interested in doing business with us because they see it as a totally redundant network. It has nothing in common with any other network in Portland.

We also will offer unique bandwidths, so that our

products meet more specifically the needs of the customer.

The technology, the fixed wireless technology, allows us to do some things a little differently. And this is what attracted us to this particular type of technology in the first place.

It allows us to do things very simply and very flexibly.

What that means is, and this is our mission, we provide data circuits that operate as fast as customers want them to operate, we install them as fast as customers want them installed, and we respond to service requests as fast as customers want us to respond.

I won't talk any more about MMDS, but I'll leave it open to questions.

I hope I've given you enough information to stimulate your imagination so that you have some good questions at the end.

One minute on DSL.

I mentioned that we're a very rural telephone company with 14 customers per square mile. About half of our central offices, which means about 7 of our 14 central offices are equipped with DSL. We're proud to say that we have all of 50 customers. So we're not getting much revenue for our investment so far, but it costs us about $10,000 per central office, to equip it with DSL.

So it's not a huge amount of money, but we do have $70,000 invested so far in DSL.

Okay, thanks.

THE HONORABLE JACK R. GOLDBERG: Thank you.

There's a small telephone company in the corners of Massachusetts called Richmond Telephone -- Telecom.

Christa Proper is here. She's taking the wrench out of her back pocket and she's going to give us a few minutes on what she does and what her challenges are as a rural telephone company.

MS. CHRISTA M. PROPER: Thank you.

I'd like to thank Commissioner Eisenberg for the invitation to participate on the panel as a small independent. We appreciate any opportunity that we get to be able to speak on our success story.

Richmond Telephone Company is living proof of a rural success story. Like many other rural TelCos around the United States, Richmond was founded in the early 1900s by a group of citizens who wanted to take advantage of new technology, but couldn't get anyone to provide it in their remote, sparsely populated area.

Nearly 100 years later, the geography hasn't changed much, but the population has become a lot more savvy. Richmond not only continues to remain one of two independently family-owned telephone companies left in the

State of Massachusetts, but it also boasts a customer base that can trace its local roots back to the days when the company was formed.

Side by side, newcomers now use Richmond Telephone to run businesses from their homes, linked to the internet and telecommunity to the Western Coast from this tiny Western Massachusetts town.

Ironically, not only has the company survived, it's thrived. Over the years the company's owners have continued to invest in more advanced facilities and technology, providing services that its 1200 subscribers have demanded, while maintaining a strong grip on its best-known offerings, superior customer service.

With a 12-page local phone book and a monthly rate of $12.50, Richmond Telephone is considered by many to be the best value in town.

In 1999, after significant research, Richmond Telephone decided to take its goal of being a full-service telecommunications provider to another level.

Based on customer feedback and market research, it was determined that Berkshire County was ready for some competition in the telecommunications market.

On January 13th of this year, Richmond Networks, a competitive local exchange carrier affiliated with Richmond Telephone, was launched. Based in nearby Pittsfield,

Richmond Networks began offering local, long-distance and internet services to the surrounding area, going head-to-head with the primary provider in the area, Bell Atlantic.

Thanks to the landmark 1996 Telecommunications Act, Richmond Telephone was able to branch out and expand its services to a market they felt was in need of an alternate service for both residential and business customers.

Strong links for Richmond Networks include competitive pricing in an attractive packaging of services, compounded by the fact that the company is a local business, active in the Berkshire County economic development arena.

While the expansion has been a calculated business decision for the company, it has also been well-received. In part, because Richmond is such a key player in the local business community.

As a result, Richmond Networks offers a very local means of doing business in an often confusing industry. In these days of cutthroat competition, direct mailings and telemarketing by companies from around the country, Richmond has found success in selling its services from neighbor to neighbor.

Business and residents actually know the company's employees. They are visible in the community, serve on the

same boards and organizations, shop in the same stores. Capitalizing on that familiarity has been a key cornerstone of the success of both Richmond Telephone and Richmond Networks.

By saying that its employees are there to help consumers and to offer a competitive solution for the telecommunication needs of Berkshire County, the company has found success and customers.

In fact, less than five months after it was launched, the Richmond Networks customer bas has grown well-beyond initial project, and expansion plans are already underway.

Currently Richmond Networks leases telephone lines from Bell Atlantic to provide its services on a resale basis. In other words, Richmond Networks no long -- plans are now in the works to move from this arrangement to a facilities based company.

In other words, Richmond Networks will no longer lease lines from Bell Atlantic, but will have its own facilities and thus more control over services and pricing.

Knowing the local customer base and its needs has served Richmond Networks well. For example, when the company was formally launched in January, Richmond involved several different local and regional officials in its ribbon-cutting ceremony and open house.

Not only did that immediately bring key business leaders on board right away, but it also brought the company significant media coverage in both the local and national press, including articles by the Associated Press, the New York Times and the Boston Globe.

Tiny, little local economic development seen was the decision to open the company's office in Downtown Pittsfield, which is in the midst of a business redevelopment push.

The decision to establish a presence in Downtown Pittsfield was made jointly after discussions with the Pittsfield Mayor and the Economic Development Council. The decision was centered around the revitalization efforts of the city and the fact that Pittsfield in a central point for all of Berkshire County.

As a local company with significant growth plans and job creation possibilities, Richmond Networks was embraced by local officials as an example of the economic development opportunities that exist right in the local community.

As Richmond expands footprint into Berkshire County, it is discovering a more sophisticated consumer base. More and more customers are using telephone lines, fax, modems and computers to operate in their daily lives.

Services that used to be considered exclusive are